MICHIGAN DEPARTMENT OF
ENVIRONMENT, GREAT LAKES, AND ENERGY

Water Use Advisory Council

October 20, 2020

WUAC Meeting Materials and Access Information

https://www.michigan.gov/egle/0,9429,7-135-3313_3684_64633-541544--,00.html

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1. Welcome

WUAC Chair Order for 10/20

- Laura Campbell, Manager (Items 1-6)
  Agricultural Ecology Department
  Michigan Farm Bureau

- Brian Eggers, (Item 7)
  AKT Peerless

- Bryan Burroughs, Executive Director (Items 8-12)
  Michigan Trout Unlimited

Co-Chair Laura Campbell

Agenda Items 1-6

AGENDA

1. Welcome
2. Roll Call
3. Approval of Agenda-Roll Call Vote
4. Approval of Minutes-Roll Call Vote
5. Public Comment
6. Process and Timeline for Completing 2020 Legislative Report
7. Recommendations selected for further discussion
    - Review of Michigan Hydrologic Framework (which now incorporates language on the previously presented metamodeling recommendation), pages 12-15
    - Monitoring Well Network, pages 17-19
    - Compiling Key Aquifer Properties for use in the Water Withdrawal Assessment Tool, pages 21-23
    - 3D Glacial Aquifer Mapping in Two Counties, pages 23-24
    - Water Conservation Recommendations -pending
8. Process and Timeline for Completing 2020 Legislative Report
9. Updates on Cass County Model
10. Next Meeting
11. Open Comments
12. Motion to Adjourn

2. Roll Call

3. Approval of Agenda –Roll Call Vote

4. Approval of Minutes—Roll Call Vote

5. Public Comment

Co-Chair Brian Eggers

Agenda Item 7

7. Recommendations Selected for Further Discussion

- Review of Michigan Hydrologic Framework --Hamilton
- Monitoring Well Network–Haefner
- Compiling Key Aquifer Properties for use in the Water Withdrawal Assessment Tool -- Lusch
- 3D Glacial Aquifer Mapping in Two Counties- Lusch
- Water Conservation Recommendations -Turner

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Models Committee Recommendations

Results from additional discussion with Council members

Review of Michigan Hydrologic Framework --Hamilton

Michigan Hydrologic Framework

a. Glacial geology expertise is important in collecting and interpreting geologic data in Michigan. This expertise will be included in developing the MHF.
b. Metamodeling will be evaluated as a possible way to incorporate information from calibrated models to the screening tool as part of the MHF development.
c. Total project: $2,100,000 ($900,000 year 1, $700,000 year 2, and $500,000 year 3).

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Monitoring Well Network–Haefner

Models Committee Recommendations

Results from additional discussion with Council members

Compiling Key Aquifer Properties for use in the Water Withdrawal Assessment Tool -- Lusch

Provide better estimates of aquifer properties (storage coefficient and transmissivity). Steps were added to evaluate what the impacts of changing these parameters would be on streamflow depletion associated with existing registered users. This information and a proposed implementation strategy will be brought to the Council for consideration.

3D Glacial Aquifer Mapping in Two Counties--Lusch

- 3D glacial aquifer data, currently unavailable in most of Michigan, would greatly help EGLE staff, as well as private contractors, to predict whether proposed LQWs are likely to cause ARIs by using groundwater flow modelling.
- One of most robust methods of mapping the 3D aquifer properties of an area is the transition probability/Markov (TP) geostatistical approach to produce a 3D Lego® block-like geologic model of aquifer material types.
- The WUAC recommends that the legislature allocates **$80,000** to the EGLE Water Use Program to be expended across two fiscal years by an **external contractor** who will map the 3D aquifer properties of **Cass and Calhoun counties** using the TP geostatistical approach.
- The contractor shall propose and conduct one or more statistical comparisons of the TP-derived geologic model with a subjectively-derived geologic model for each county and present their findings to WUAC Models Committee.

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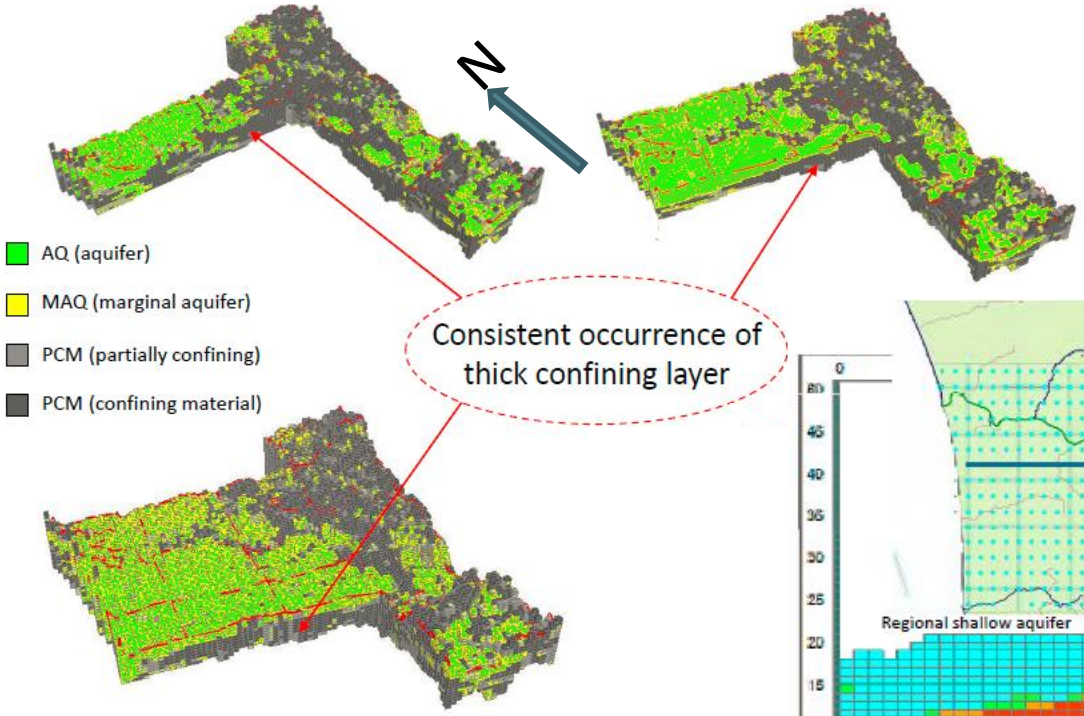
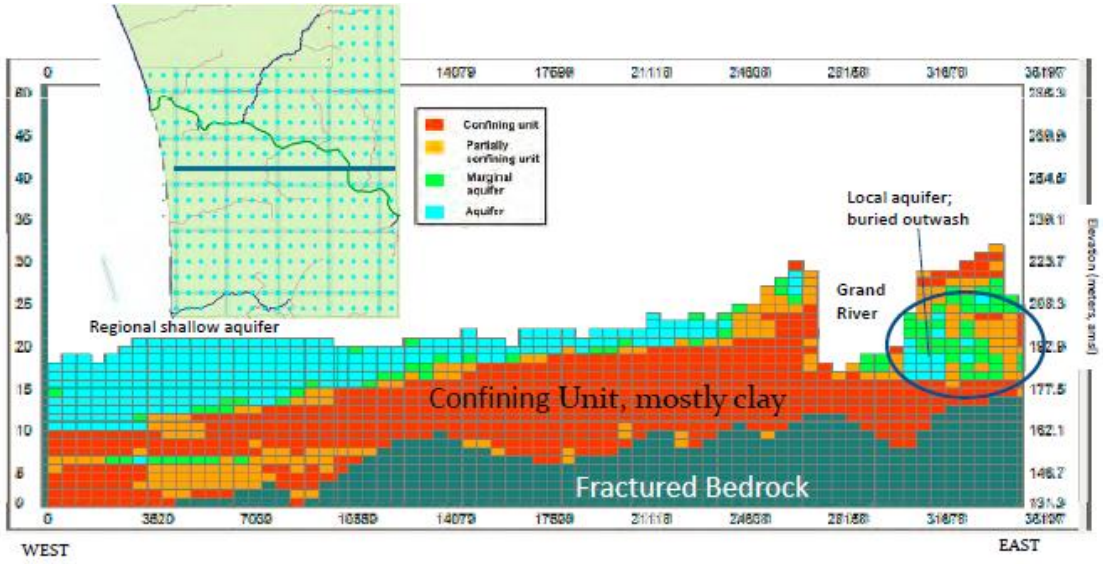
3D Glacial Aquifer Mapping in Two Counties





Water Conservation and Efficiency Workgroup-Turner

Jeremiah Asher, Tom Frazier, Emily Finnell, Kelly Turner, Abigail Eaton, Frank Ettawageshik, Jason Walther, Andrew LeBaron, Hannah Arnett

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Water Conservation and Efficiency Recommendations:

Advance Michigan's Water Conservation and Efficiency Efforts through State Climate, Energy, and Water Infrastructure

Increasing Water Efficiency and Conservation Practices in the Agriculture Industry

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Advance Michigan's Water Conservation and Efficiency Efforts through State Climate, Energy, and Water Infrastructure Initiatives

Synopsis:

- MI Healthy Climate Plan introduction
  Making MI fully carbon-neutral by 2050
- Investment in MI's aging water infrastructure
- New Technological Advancements

Identify gaps and opportunities to strategically integrate water conservation and efficiency into current and future climate, energy and water infrastructure policies and programs.

Develop knowledge of best practices and cutting-edge technological innovations for water conservation and efficiency for different water user (residential, agricultural, commercial, institutional, and industrial user groups).

Identify programs to promote education, outreach and technical assistance to different user sectors (residential, agricultural, commercial, institutional, and industrial user sectors).

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Advance Michigan's Water Conservation and Efficiency Efforts through State Climate, Energy, and Water Infrastructure Initiatives

Recommendations:

Form a WUAC Subcommittee to champion the strategic integration of water conservation and efficiency into Michigan's existing and new policies and programs through the following actions.

- Conduct an assessment of the state of Michigan's current climate, energy, sustainability and water infrastructure policies and programs to identify current and future opportunities where water conservation and efficiency efforts may be incorporated.
- Identify gaps and opportunities to strategically integrate water conservation and efficiency into future policies and programs.
- Identify technological advancements to incorporate into water conservation and efficiency practices.
- Assess the EPA Watersense Program and other water rich state water conservation and efficiency programs including education and outreach initiatives targeting major water sectors (for example: the Minnesota Water Conservation Program).
- Identify specific innovative opportunities to improve Michigan's Water Conservation and Efficiency Program by building connections between current and new policies and programs, technological innovations, and promote education and outreach to different user sectors.

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Advance Michigan's Water Conservation and Efficiency Efforts through State Climate, Energy, and Water Infrastructure Initiatives

Cost and Funding

Approximately $50,000 to issue a competitive funding opportunity to hire a consultant to conduct the assessment

Submit a project proposal through the University of Michigan Graham Sustainability Institute Dow Sustainability Fellows program.

Implementing Organization

The newly created WUAC committee, EGLE and MDARD staff to convene the stakeholder group, develop funding opportunity, and/or serve as advisors to the Dow Sustainability Fellows Masters project team to participate in the discussion.

Timeframe

Approximately 12 months

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Increasing Water Efficiency and Conservation Practices in the Agriculture Industry

Synopsis

- Ag irrigation continues to expand
- MI Healthy Climate Plan introduction, MI fully carbon-neutral by 2050
- Increased conservation and efficiency practices may become critically important as more Water User Committee discussions take place
- Ag Irrigation GAAMPS are tools for educators to expand on efficiency and conservation practices leading to water quality benefits

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Increasing Water Efficiency and Conservation Practices in the Agriculture Industry

- Recommendation
- Develop and implement a strategy with clear objectives to expand training and outreach to each Agriculture Industry sector to improve water efficiency, and where possible, provide water quality benefits. This new initiative should include a systematic approach to water efficiency and conservation education and training for both plant and animal agriculture industries that can transition to a long-term institutionalized program.

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Increasing Water Efficiency and Conservation Practices in the Agriculture Industry

Cost and Funding

Adding two (2) additional FTE positions to the current MSUE irrigation educator team to develop and launch the initiative into a program that can be institutionalized into a long-term program over a three-year period is $80,000-$100,000 per position annually. This cost covers the position salary, benefits, and a small operating stipend. **For FY 2021-2023 the ask is for $200,000 annually.**

Implementing Organization

Michigan Commission of Agriculture and Rural Development, MDARD, EGLE and MSUE

Timeframe

A three-year timeframe is needed to develop, initiate, implement, and evaluate the program. After this initial three-year period, it is expected that the positions become institutionalized for continued success.

Co-Chair Bryan Burroughs

Agenda Items 8-12

8. Process and Timeline for Completing 2020 Legislative Report

Implementation Committee

Two Topics:

1. Language in introduction
2. Priority of Recommendations

Language in Introduction

A fundamental underlying reason that we address the issue of water conservation is that we love the Great Lakes and the ground water systems upon which they rely. We may ask ourselves - why do we do this work to preserve the water? … The answer lies in the fact that unlike many other endeavors where failure may be inconvenient but otherwise has little effect on our lives, failure in this work that we are doing will have major negative impacts. If we are not able to develop the process for the shift in how our State and our communities use, conserve, protect and restore the water resources in the Great Lakes region our failure will impact our lives and the lives of our children, grandchildren and generations beyond.

The indigenous nations of the Great Lakes region have traditional teachings that guide them to seek balance in personal, family, community and national life. The strengths and perils of Fire, Wind, Earth and Water and the balance among them are of fundamental importance. These teachings inform that when people disrespect this balance, our collective future is endangered. Water is the lifeblood of Mother Earth; it flows in her veins and fills her oceans, lakes, rivers and streams. It is essential for the plants and animals with whom we share this wonderful creation. It surrounds us all in our Mothers' wombs before we are born; without it, life as we know it could not exist on Earth.

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Language in Introduction

- This is from the 2014 WUAC report
- Should there be a new statement, or is this appropriate to repeat?
- Does it capture the need to emphasize the value of water, which the Council discussed in September?

Priority of Recommendations

Recommendations are currently gathered into groups:

- Recommendations to Continue and Improve Current Operations and Data Collection
  - Michigan Integrated Water Management Database
  - Well Driller Trainings for Improved Data
  - U.S. Geological Survey (USGS) and EGLE streamflow gages
- Recommendations for New Operations to Improve Data Collection and Modeling
  - Michigan Hydrologic Framework
  - Geologic Data Collection and Mapping in targeted areas of Michigan
  - Monitoring Well Network
- Recommendations for Additional Activities to Improve Data Collection and Modeling as Continued and New Operations are Underway
  - Long-term planning
  - WWAT user interface update
  - Compiling Key Aquifer Properties for use in the Water Withdrawal Assessment Tool
  - 3D Glacial Aquifer Mapping in Two Counties
- New and Ongoing Activities that Do Not Need Additional State Funding
  - Develop Water User Committee (WUC) User's Manual
  - Develop standards & protocols for collection and use of new data within the program
  - Well-owner outreach on registration completion requirements
  - Continue review and work on Cass County water use pilot study model

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Priority of Recommendations

We propose that while the report should emphasize all recommendations are a priority of the Council, that the groups listed are prioritized in order of necessity for immediate (FY 2022) funding, but that the individual recommendations within each group are NOT prioritized – they are presented as a package:

- Recommendations to Continue and Improve Current Operations and Data Collection
- Recommendations for New Operations to Improve Data Collection and Modeling
- Recommendations for Additional Activities to Improve Data Collection and Modeling as Continued and New Operations are Underway
- New and Ongoing Activities that Do Not Need Additional State Funding

- Question: where do the new Conservation recommendations go if they are approved?

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9. Cass County Model Update

Dave Hamilton

Follow up on Cass County model

The Models Committee held a detailed presentation and discussion of the Cass Co model (it was recorded). There are a number of issues with it, identified by several reviewers. It is clear that EGLE will not accept the model in it current form. The Co-chairs volunteered to facilitate a technical meeting, which was held last week . The participants agreed on a plan to move forward with the model. Funders observed the meeting.

We believe it is important for the future of the program to develop models of this scale that can accurately represent the water resources and evaluate the impacts of large quantity water withdrawals.

10. Next Meetings

- November 10, 2020
- December 15, 2020

11. Open Comments

12. Motion to Adjourn